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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,867	02/19/2004	Albert R. Harvey	2507-5732.2US(21806-US-04	7545
60794	7590	09/28/2007		
TRASKBRITT, P.C./ ALLIANT TECH SYSTEMS			EXAMINER	
P.O. BOX 2550			NUTTER, NATHAN M	
SALT LAKE CITY, UT 84110				
			ART UNIT	PAPER NUMBER
			1711	
			NOTIFICATION DATE	DELIVERY MODE
			09/28/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOMail@traskbritt.com

## Office Action Summary

**Application No.**

10/783,867

**Applicant(s)**

HARVEY ET AL.

**Examiner**

Nathan M. Nutter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 45-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 45-61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION*****Claim Interpretations***

The claims recite an apparatus that comprises a product, being a "shear ply" which is defined in the claims as being "a rubber component cured from a precursor composition." The claim recitations then define what is included in the composition. The only constituent to which patentability may be ascribed would be in the composition of the "shear ply" and not to any arrangement thereof in a rocket motor since, as applicants admit at page 5 of the Appeal Brief filed 5 March 2007;

"Appellants further submit that one of ordinary skill in the art understands what a "rocket motor assembly" comprises as well as how to build and use one. See, e.g., WO 01/04198 A1, which discloses a "rocket motor assembly." Further, Appellants note that rocket motors are a mature and predictable area of art with rocket motor assemblies having been created and utilized since at least the 1940s. Given the rocket motor assemblies are well known in the art, applicants omitted an in depth description of such assemblies as the Federal Circuit has directed that such material is preferably, omitted. See, e.g., In re Buchner."

The Brief goes on to state "that one of ordinary skill in the art could make or use the invention with very little or no experimentation as rocket motor assemblies and their construction are well known in a mature and predictable art."

***Specification***

The amendment filed 14 August 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no

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amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the recitations of newly added paragraph [0021.1] and the attendant added Figure 5 have no support in the Specification as originally filed. Further the newly added sentence in paragraph [0035] is deemed to be new matter, having no support in the Specification as originally filed.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Response to Amendment***

In response the amendment filed 24 August to the recitations of claims 58 and 59 to include the term "about," which is as originally filed, the rejection of claims 58 and 59 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, is hereby expressly withdrawn.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 45-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metcalf et al (US 6,554,936), Ratz et al (US 5,257,761), Sayles (US 4,953,476) or Hartz et al (US 3,620,901), all newly cited, taken each in view of Jonen et al (US 5,860,883), Onaka et al (US 6,240,993), Morris et al (US 6,352,488), Billups (US 6,443,866) or Nagata et al (US 6,739,854), cited previously and for the reasons cited.

The references to Metcalf et al, Ratz et al, Sayles and Hartz et al, each teaches the conventionality of using a nitrile rubber as a shear ply (insulation) for a rocket motor. Note in Metcalf et al, the Abstract column 3 (lines 12 et seq.) and column 6 (lines 5 et seq.). Note in Ratz et al, the Abstract, column 3 (lines 1-15), the paragraph bridging column 6 to column 7 and column 10 (lines 47-60) for the nitrile rubber. In Sayles, note column 1 (lines 13 et seq.) for the conventionality of using nitrile rubbers. In Hartz et al, note Example 1 at column 2. Each reference specifically shows the conventionality to use nitrile rubbers for shear ply components in rocket engines.

Each of the references to Jonen et al (US 5,860,883), Kinoshita et al (US 6,132,328), Onaka et al (US 6,240,993), Morris et al (US 6,352,488), Billups (US 6,443,866) and Nagata et al (US 6,739,854) teaches the manufacture of power transmission belts that may comprise a first hydrogenated nitrile conjugated-diene copolymer modified by a metal salt unsaturated carboxylic acid ester, a second hydrogenated nitrile conjugated-diene copolymer and a curing agent, as recited and claimed herein. The constituents are shown to be conventional with the final product possessing "flexion, strength, and high-temperature properties" as required for power transmission belts.

The reference to Jonen et al (US 5,860,883) shows the resin blend of a first modified hydrogenated nitrile rubber with a second hydrogenated nitrile rubber at column 2 (lines 17-64), column 3 (lines 33-39) and column 6 (lines 13-31). The curing agent, including the peroxide of claim 55, is also shown at column 8 (lines 47-57). The

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choice of the nitrile rubber constituents, whether it be acrylonitrile or methacrylonitrile or particular diene, is not shown to be critical since all of these constituents are conventional and known. The metal salt carboxylic acid esters employed are taught at column 6 (lines 32-43) to include those recited and claimed. the fibers employed are shown at column 9 (lines 36-48).

The reference to Morris et al (US 6,352,488) shows the contemplated blend at column 2 (lines 56-65) and column 4 (lines 3-10). The peroxides employed are taught at column 3 (lines 44-65). The modified nitrile rubber is shown at column 3 (lines 12-26). Fibers may be employed though not those specifically recited in claims 60 and 61. Note column 3 (lines 44-65).

The reference to Billups (US 6,443,866) teaches the claimed blend at column 2 (lines 31-41) and the curing agent at column 2 (lines 44-64).

The patent to Nagata et al (US 6,739,854) shows the contemplated combination at column 4 (lines 54-60). A reinforcing fiber may be added at column 5 (lines 8 et seq.).

The references alone and collectively show the blend of resins and the various aspects of these compositions as including those parameters as recited and herein claimed. Since the primary references all show the conventionality of using nitrile rubbers for the shear ply, the use of those of the secondary references would be obvious to a practitioner. As such, the instantly claimed invention would have been obvious to a skilled artisan at the time the invention was made.

***Response to Arguments***

Applicant's arguments filed 24 August 2007 have been fully considered but they moot in view of the new ground of rejection.

With regard to the objection to the Specification for the amendment filed 14 August 2006 under 35 U.S.C. 132(a) because it introduces new matter into the disclosure, Figure 5 was not present in the Specification, as originally filed, and does not appear to have the support applicants assert. Figure 5 does not show any concept of "providing a rubber shear ply comprising the rubber component of this invention and interposing the rubber shear ply between a skirt and a composite rocket motor case of a rocket motor assembly." The drawing is not definitive to any rocket shear ply, or positioning in a rocket motor. The drawing is simply a laminate structure, without the supporting details applicants contend to be shown. The addition of the material in paragraphs [0021.1] and [0035] is then based upon the addition of information related to the drawing which is not proper for entry. Nothing in Figure 5 would be interpreted as a rocket engine. Correction is required.

With regard to the rejection of claims 45-61 under 35 U.S.C. 103(a) as being unpatentable over Metcalf et al (US 6,554,936), Ratz et al (US 5,257,761), Sayles (US 4,953,476) or Hartz et al (US 3,620,901), taken each in view of Jonen et al (US 5,860,883), Onaka et al (US 6,240,993), Morris et al (US 6,352,488), Billups (US 6,443,866) or Nagata et al (US 6,739,854), applicants argue each reference as though the rejection was made under 35 USC 102, which it was not. The references are viewed

in the entirety of their teachings and for the reasons as set out in the rejection. The claims have been viewed in the entirety of their presentation. The references show each aspect as recited and claimed herein as conventional and known. Applicants claims do not exclude other constituents, as applicants attempt to establish patentability thereover. Applicants have failed to show why the references do not teach the conventionality of these components, except to argue word semantics. A skilled artisan, as applicants have pointed out previously, would know the conventional construction of a rocket engine since this art is established. See applicant's Appeal Brief at pages 4-6. The formulation for the shear ply is shown by the references to Metcalf et al, Ratz et al, Sayles and Hartz et al.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within



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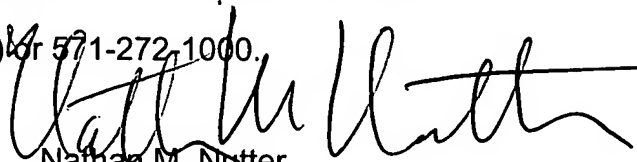
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan M. Nutter whose telephone number is 571-272-1076. The examiner can normally be reached on 9:30 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Nathan M. Nutter  
Primary Examiner  
Art Unit 1711

nmn

24 September 2007